

B1
End

surrounding said core, said cladding not containing dopant.

REMARKS

A petition for a one month extension of time has today been filed as a separate paper and a copy is attached hereto.

Newly presented claims 11, 14, 17 and 20 roughly correspond to original claims 3, 5, 7 and 9, respectively. Claim 14 corrects claim 5 by changing "longer" to "shorter". See Fig. 7 and the description thereof beginning at page 17, line 21 of the original specification. The additional language added to these claims which reads "for receiving an optical signal... and outputting the attenuated optical signal" corresponds to the teaching at page 10, lines 12-15. The word "centermost" has been adopted to more precisely define the portion of the core to which it refers shown as 6a in Fig. 1 of the drawings. The definition of the mode field for the single mode transmission of the optical signal is found at page 18, lines 7-12 read in light of Fig. 1 of the drawings.

New claims 12, 15, 18 and 21 correspond, respectively, to original claims 4, 6, 8 and 10. New claims 13, 16, 19 and 22 describe the cladding shown as 8 in Fig. 1 which is not cross-hatched which indicates lack of a dopant. See page 10, line 22 of applicants' original specification.

As requested by the examiner, a new title has been submitted by amendment here.

Applicants' claims 1, 2, 3, 4, 7 and 8, drawn to an optical fiber wherein the attenuating dopant is limited to a central portion of a core were rejected for anticipation by Yoshida - JP 10339822. The claims corresponding to original claims 3, 4, 7 and 8 are new claims 11, 12, 17 and 18, respectively. No new claim corresponding to original claims 1 and/or 2 has been presented. The rejection, insofar as it might be considered applicable to any of new claims 11, 12, 17 and 18 is respectfully traversed. At the outset, it should be noted that Yoshida discloses no optical fiber combining features he describes in paragraphs 24-26 with features he describes in paragraphs 2-5. The description at paragraphs 2-5 is that of a prior art fiber whereas the description at paragraphs 24-26 is a description of what Yoshida regards as his invention and as an improvement over the prior art fiber. It is believed that the examiner has improperly combined these teachings in the rejection. Further, in the first full sentence at the top of page 3 the examiner characterizes Yoshida as disclosing "an optical fiber for amplification" and in the next sentence characterizes the optical fiber of Yoshida as "an optical attenuator." Of course, this represents a contradiction. Those skilled in the art would regard the optical fiber of Yoshida as an amplifier. Indeed, Yoshida describes his optical fiber as an "amplifier." See paragraphs [0001] and [0008] of the Yoshida translation. Yoshida includes a dopant in his so-called "2nd core" for the purpose of absorbing signal light which leaks out of the "1st core" and light spontaneously generated by fluorescence which Yoshida refers to as "ASE". See paragraphs [0009] and [0020] of the Yoshida translation. Thus, the dopant of Yoshida serves to absorb these

extraneous emissions in the “2nd core” to prevent reentry of light reflected by the interface with the cladding 4 and to prevent bending loss, connection loss, etc. See paragraphs [0008]-[0010]. Notwithstanding the absorption of such extraneous light in the “2nd core”, those skilled in the art would regard the optical fiber of Yoshida to be “an amplifier” as indeed it is described by Yoshida himself, because the “signal light” transmitted therethrough is amplified.

Further, new claims 11 and 17, and the claims dependent thereon, require that the centermost portion of the core have the attenuating dopant while the peripheral portion of the core is “free of dopant.” In contradistinction, the fiber of Yoshida contains a dopant both in the “1st core 2” (see paragraphs [0014] and [0017]) and in portion 4b of the “2nd core 4” (see paragraph [0019]). Parenthetically, the prior art fiber described at paragraphs [0002]-[0007] includes a first core 2 doped with Nd for amplification of the light signal.

In both the prior art optical fiber and in the fiber described by Yoshida as his invention, the “2nd core” is multimode with respect to the excitation light which it receives. See paragraphs [0004] and [0012] of Yoshida. In contradistinction, all the newly presented claims require that the core inclusive of both the central and peripheral regions be single mode.

Likewise, the rejection of claims 5, 6, 9 and 10 for obviousness over Yoshida in view of Morishita is traversed to the extent that the rejection might be applicable to newly presented claims 14 and 20 and the claims dependent thereon. The examiner correctly notes that Morishita teaches “a core containing, in a dopant area, a dopant which attenuates transmitted light...”

[Emphasis added]. However, modification of Yoshida to attenuate the transmitted light would be much more than a “modification.” Rather, such a change would be a complete conversion of the optical fiber of Yoshida to provide a function which is the opposite of that intended by Yoshida, i.e., attenuation rather than the amplification intended by Yoshida. In other words, the allegedly obvious “modification” would completely emasculate the invention of Yoshida in the sense that it would be totally at odds with Yoshida’s objective of providing more efficient amplification.

In the rejection of claims 5, 6, 9 and 10 for obviousness, the examiner writes:

However, the reference [Yoshida] fails to teach doping of a peripheral part of the core. On the other hand, Morishita discloses an optical attenuator that teaches the limitation the Yoshida reference lacks.

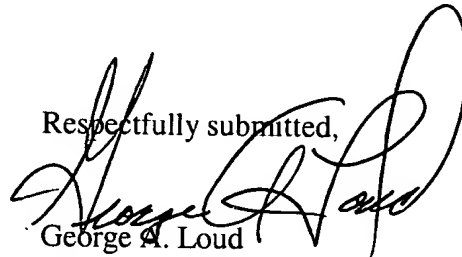
In point of fact, Yoshida does teach doping of a peripheral part of the core of his optical fiber amplifier, i.e., peripheral part 4b (Fig. 1). However, peripheral part 4b of Yoshida is not contiguous with the centermost portion 2 of the core as required by applicants’ new claim. Even if zone 4a were to be doped, contrary to the teachings of Yoshida, the result would not be an element within the scope of any of claims 14, 20 or the claims dependent thereon, because these claims also require that the centermost portion of the core be free of dopant.

The basic problem with the examiner’s anticipation rejection is that he would combine features of what Yoshida describes as the prior art with features of what Yoshida describes as his invention. While such a combination of teachings might be relied upon for a rejection for obviousness, if the examiner could point to some incentive or motivation for the combination, it certainly does not present a *prima facie* case for anticipation. The basic problem with regard to

the rejection for obviousness is that the examiner would combine features of an attenuator with those of an amplifier which is intended to have the opposite effect.

In conclusion, it is respectfully requested that the examiner reconsider the rejections of record with a view toward allowance of the claims as amended.

Respectfully submitted,



George A. Loud

Reg. No. 25,814

Dated: February 7, 2003

LORUSSO & LOUD
3137 Mount Vernon Avenue
Alexandria, VA 22305

(703) 739-9393